

In The Claims

Claim 1 has been amended as follows:

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1. (Amended) A cooling stage for a semiconductor substrate comprising:

a pedestal having a substantially planar top surface,

a first plurality of circular grooves concentrically formed in said top surface, and

a second plurality of linear grooves formed in radial directions emanating from a center of said top surface in fluid communication with said first plurality of circular grooves allowing a cooling fluid to flow therethrough when said semiconductor substrate is positioned on said top surface of the pedestal, said first plurality of circular grooves and said second plurality of linear grooves each having a width between about 1 mm and about 7 mm, and a depth between about 1 mm and about 7 mm.

Please cancel claims 4, 6 and 7 without prejudice.

Claim 8 has been amended as follows:

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8. (Amended) A method for cooling a semiconductor substrate comprising the steps of:

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providing a cooling stage comprising a wafer pedestal equipped with a grooved top surface thereon, said grooved top surface comprises a first plurality of circular grooves concentrically formed in said top surface and a second plurality of linear grooves formed in radial directions emanating from a center of said top surface in fluid communication with said first plurality of circular grooves, said first plurality of circular grooves and said second plurality of linear grooves each having a width between about 1 mm and about 7 mm, and a depth between about 1 mm and about 7 mm,

positioning a heated semiconductor substrate on said grooved top surface,

flowing a cooling liquid through a cooling channel in said wafer pedestal to carry away heat transferred to said grooved top surface, and

flowing a cooling gas through said first and second plurality of circular and linear grooves to carry away heat from a backside of said heated semiconductor substrate.

Please cancel claim 11 without prejudice

Claim 16 has been amended as follows:

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16. (Amended) A wafer pedestal effective in cooling a high temperature processed wafer comprising:
a wafer pedestal having a substantially planar top surface,
at least 3 circular grooves concentrically formed in said top surface, and
at least 2 linear grooves formed in radial directions emanating from a center of said top surface in fluid communication with said at least 3 circular grooves for flowing a cooling fluid therethrough cooling said high temperature processed wafer positioned thereon.

REMARKS

Thorough examination and careful review of the application by the Examiner is noted and appreciated.

Claims 1-20 were presented for examination. Claims 1-20 stand rejected.